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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/585,261	06/02/2000	Kah Phang Loh	70990046-2	5640

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EXAMINER

DINH, TUAN T

ART UNIT	PAPER NUMBER
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2827

DATE MAILED: 02/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/585,261

Applicant(s)

LOH, KAH PHANG

Examiner

Tuan T Dinh

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 10-18 is/are pending in the application.
- 4a) Of the above claim(s) 8 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7 and 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujii (U. S. Patent 6,023,414) in view of Prior Art (PA-figures 1-5).

As to claims 1, 13-15, and 18, Fujii discloses a circuit board assembly as shown in figures 1-7 comprising:

a planar circuit board (2, column 4, line 5) having a major surface and a side surface (see figure 3);

a planar substrate (12, column 3, line 16) mounted on the major surface of the circuit board, an extended portion of the planar substrate extending beyond the side surface; and

a substrate (13, column 1, line 32), which is part of a display device (1) having a LED (17) mounted on the extended portion of the substrate (12) adjacent the side surface of the printed circuit board (2-figure 3-4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have LED substrate capable of being as an optical module in order to provide transmit/receive signals from other source, since it has been held that

rearranging/replacing parts of an invention involves only routine skill in the art. In re Japike, 86 USPQ 70.

Further, PA teaches an IR transceiver module (200) mounted on an end portion of a PCB (250), the module, which is surface mounted on an extended portion of the substrate, having first and second molded lens shape over LED and photodiode respectively.

It would have been obvious to one having ordinary skill in the art at time the invention was made to have an transceiver module as taught by PA to employ the assembly of Fujii in order to provide a wireless communication with other electronic device.

As to claims 2 and 17, Fujii discloses a circuit board assembly as shown in figures 3-4 wherein the planar circuit board (2) includes an end portion defining a recess (20, column 4, line 9) in which the optical transceiver module (13) is disposed.

As to claim 16, PA shows a planar circuit board (250-figure 3) having multi-faced surface bounding a recess on three sides and leaving a fourth side open.

It would have been obvious to have teachings of the PA (figure 3) to employ the assembly of Fujii in order to provide the module easy install into the planar board.

As to claim 3, Fujii discloses a circuit board assembly as shown in figures 1-7 wherein the planar substrate (12) includes electrically conductive interconnects (12d, column 4, line 30) for coupling electrical terminals on the optical transceiver module with electrical terminals on the planar circuit board.

As to claim 4, Fujii discloses a circuit board assembly as shown in figure 4 wherein the planar substrate (12) and the planar circuit board (2) are substantially parallel.

As to claim 5, Fujii discloses a circuit board assembly as shown in figures 1-7 wherein the planar substrate is soldered onto the major surface of the planar circuit board (column 4, lines 29-31).

As to claim 6, Fujii discloses a circuit board assembly as shown in figures 1-2 wherein the optical transceiver module is soldered onto the extended portion of the planar substrate.

As to claim 7, Fujii discloses a circuit board assembly as shown in figures 3-7 wherein the optical transceiver module is mounted on, and the major surface of the planar circuit board faces a same side of the planar substrate.

As to claim 10, Fujii discloses a circuit board assembly as shown in figures 1-7 comprising:

- a planar circuit board (2) having a major surface, and a side surface defining a recess (20);

- a planar substrate (12) mounted on the major surface of the circuit board (2), an extended portion of the planar substrate extending over the recess (see figure 4); and

- a LED substrate (13) mounted on the extended portion of the substrate (12) so as to be disposed in the recess (20) of the circuit board.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have LED substrate capable of being as an optical module in

order to provide transmit/receive signals from other source, since it has been held that rearranging/replacing parts of an invention involves only routine skill in the art. In re Japike, 86 USPQ 70.

Further, PA teaches an optical transceiver module (200) mounted on an end portion of a PCB (250).

It would have been obvious to one having ordinary skill in the art at time the invention was made to have an transceiver module as taught by PA to employ the assembly of Fujii in order to provide a wireless communication with other electronic device.

As to claim 11, Fujii discloses a display device module package (1) for mounting on a planar circuit board (2-figures 3-7) having a major surface and a side surface, the major surface provided with electrical terminals (21), the package as shown in figures 1-7 comprising:

a planar substrate (12) for mounting on the major surface of the circuit board (2) so that an extended portion of the planar substrate (12) extends beyond the side surface (see figure 4);

a LED substrate (13) provided with electrical terminals and mounted on the extended portion of the substrate (12) adjacent the side surface of the printed circuit board; and

electrically conductive interconnects (12d) associated with the planar substrate for coupling the electrical terminals on the optical transceiver module (13) with electrical terminals (21 on the planar circuit board (2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have LED substrate capable of being as an optical module in order to provide transmit/receive signals from other source, since it has been held that rearranging/replacing parts of an invention involves only routine skill in the art. In re Japike, 86 USPQ 70.

Further, PA teaches an optical transceiver module (200) mounted on an end portion of a PCB (250).

It would have been obvious to one having ordinary skill in the art at time the invention was made to have an transceiver module as taught by PA to employ the assembly of Fujii in order to provide a wireless communication with other electronic device.

As to claim 12, Fujii discloses a package (1) as shown in figures 1-7 comprising:
a planar substrate (12) for mounting on the major surface of a circuit board (2) so that an extended portion of the planar substrate extends over a recess (20) of the circuit board;

a LED substrate (13) provided with electrical terminals and mounted on the extended portion of the substrate (12) so as to be disposed in the recess; and

electrically conductive interconnects (12d) associated with the planar substrate (12) for coupling the electrical terminals on the optical transceiver module with electrical terminals (21) on the planar circuit board.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have LED substrate capable of being as an optical module in

order to provide transmit/receive signals from other source, since it has been held that rearranging/replacing parts of an invention involves only routine skill in the art. In re Japike, 86 USPQ 70.

Further, PA teaches an optical transceiver module (200) mounted on an end portion of a PCB (250).

It would have been obvious to one having ordinary skill in the art at time the invention was made to have an transceiver module as taught by PA to employ the assembly of Fujii in order to provide a wireless communication with other electronic device.

Response to Arguments

3. Applicant's arguments with respect to claims 1-7, and 10-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T Dinh whose telephone number is 703-306-5856. The examiner can normally be reached on M-F.

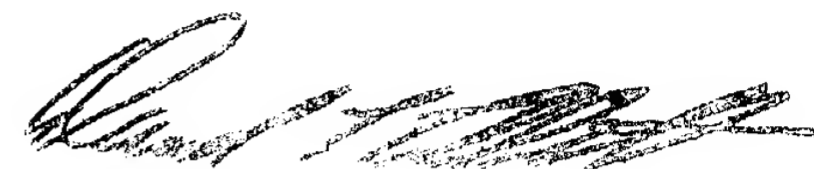
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on 703-305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-1341 for regular communications and 703-308-1341 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TD
February 20, 2003.



DAVID L. TALBOTT
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800